CLAIMS

What is claimed is:

5   1.   In a communications platform comprising a service-requesting entity and an
interface with which a remote communications node can be coupled to the communications
platform, the remote communications node comprising a remote service, the method
comprising:
          the service-requesting entity requesting the remote service; and
10   representing the remote service on the communications platform only by a proxy.

          2.   The method recited in claim 1, wherein the proxy comprises a remote service
frontend.

15   3.   The method recited in claim 2, wherein the communications platform
comprises a connection manager service to indicate when the interface is active or not, and
wherein the remote service comprises the remote service frontend residing on the
communications platform and a remote service backend residing on the remote
communications node.
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          4.   The method recited in claim 3, wherein the communications platform
comprises a remote service event notification registry, the method further comprising:
          the remote service frontend registering a notification request for the remote service
backend in the remote service event notification registry.
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          5.   The method recited in claim 4, the method further comprising:
          the connection manager service indicating that the interface is active; and
          notifying the remote service frontend that the remote service backend is on the
remote communications node.
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6.   The method recited in claim 5, the method further comprising:

the remote service frontend communicating with the remote service backend.

7.   The method recited in claim 6, wherein the communications platform

comprises a service registry, the method further comprising:

the remote service frontend registering the remote service in the service registry.

8.   The method recited in claim 7, the method further comprising:

notifying the service-requesting entity that the remote service is registered in the

service registry; and

the service-requesting entity invoking the remote service.

9.   The method recited in claim 8, wherein the communications platform

comprises at least one local service, and wherein the at least one local service and the

remote service appear indistinguishable to the service-requesting entity.

10.   The method recited in claim 8, the method further comprising:

the connection manager service indicating that the interface is inactive; and

the remote service frontend unregistering the remote service in the service registry.

11.   A computer-readable medium containing computer instructions for

instructing a processor to perform a method of operating a communications platform

comprising a service-requesting entity and an interface with which a remote

communications node can be coupled to the communications platform, the remote

communications node comprising a remote service, the instructions comprising:

the service-requesting entity requesting the remote service; and

representing the remote service on the communications platform only by a proxy.

12.   The computer-readable medium recited in claim 11, wherein the proxy

comprises a remote service frontend, wherein the remote service comprises the remote

service frontend residing on the communications platform and a remote service backend

residing on the remote communications node, the instructions further comprising:

the remote service frontend communicating with the remote service backend when the interface is active.

13.   The computer-readable medium recited in claim 12, the instructions further comprising:

notifying the service-requesting entity that the remote service is available; and

the service-requesting entity invoking the remote service.

14.   The computer-readable medium recited in claim 13, the instructions further comprising:

the remote service frontend not communicating with the remote service backend when the interface is inactive.

15.   The computer-readable medium recited in claim 13, the instructions further comprising:

the remote service frontend indicating to the service-requesting entity that the remote service is unavailable if the interface becomes inactive.

16.   A communications platform comprising:

a processor;

a wireless interface coupled to the processor to enable the communications platform to communicate with a remote node; and

a memory coupled to the processor and comprising:

a service-requesting entity; and

a service framework that represents a service residing on the remote node solely as a proxy on the communications platform.

17.   The communications platform recited in claim 16 wherein the proxy comprises a remote service frontend.

18.   The communications platform recited in claim 17 wherein the service comprises the remote service frontend residing on the communications platform and a remote service backend residing on the remote node.

5   19.   The communications platform recited in claim 18 wherein the service framework comprises a remote service event notification registry into which the remote service frontend can register a notification request for the remote service backend.

20.   The communications platform recited in claim 18 wherein the memory
10   further comprises a connection manager service to notify the service framework when the communications platform is in proximity to the remote node.

21.   The communications platform recited in claim 20 wherein the service
15   framework further comprises:
       a remote service event notification registry into which the remote service frontend can register a notification request for the remote service backend; and
       a remote lookup daemon to notify the remote service frontend that the remote service backend is on the remote node.
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22.   The communications platform recited in claim 21 wherein the service framework further comprises a service registry into which the remote service frontend can register the service.

25   23.   The communications platform recited in claim 22 wherein the service framework further comprises an event delivery daemon to notify the service-requesting entity when the service is registered in the service registry.

24.   The communications platform recited in claim 23 wherein the memory
30   further comprises:
       a program module, responsive to the event delivery daemon, to cause the service-requesting entity to invoke the service.

25. The communications platform recited in claim 24 wherein the service frontend communicates with the service backend to implement the service invoked by the service-requesting entity.

5   26. The communications platform recited in claim 24 wherein the memory further comprises:

at least one local service that can be requested and invoked by the service-requesting entity, the service and the at least one local service appearing indistinguishable to the service-requesting entity regarding the manner in which they can be requested and invoked

10   by the service-requesting entity.

27. A communications system comprising:

at least one remote node; and

at least one communications node comprising:

15   a processor;

a wireless interface coupled to the processor to enable the at least one communications node to communicate with the at least one remote node; and

a memory coupled to the processor and comprising:

a service-requesting entity; and

20   a service framework that represents a service residing on the at least one remote node solely as a proxy on the at least one communications node.

28. The communications system recited in claim 27 wherein the proxy comprises a remote service frontend.

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29. The communications system recited in claim 28 wherein the service comprises the remote service frontend residing on the at least one communications node and a remote service backend residing on the at least one remote node.

30   30. The communications system recited in claim 29 wherein the service framework comprises a remote service event notification registry into which the remote service frontend can register a notification request for the remote service backend.

31.   The communications system recited in claim 29 wherein the memory further comprises a connection manager service to notify the service framework when the at least one communications node is in proximity to the at least one remote node.

5   32.   The communications system recited in claim 29 wherein the service framework further comprises:

a remote service event notification registry into which the remote service frontend can register a notification request for the remote service backend; and

a remote lookup daemon to notify the remote service frontend that the remote

10   service backend is on the remote node.

33.   The communications system recited in claim 32 wherein the service framework further comprises a service registry into which the remote service frontend can register the service.

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34.   The communications system recited in claim 33 wherein the service framework further comprises an event delivery daemon to notify the service-requesting entity when the service is registered in the service registry.

20   35.   The communications system recited in claim 34 wherein the memory further comprises:

a program module, responsive to the event delivery daemon, to cause the service-requesting entity to invoke the service.

25   36.   The communications system recited in claim 35 wherein the service frontend communicates with the service backend to implement the service invoked by the service-requesting entity.

37.   The communications system recited in claim 35 wherein the memory further

30   comprises:

at least one local service that can be requested and invoked by the service-requesting entity, the service and the at least one local service appearing indistinguishable to the

service-requesting entity regarding the manner in which they can be requested and invoked by the service-requesting entity.

38.   A method of providing a service on a communications node, wherein the communications node comprises a service-requesting entity and a service registry, the method comprising:

the service-requesting entity constructing a service template representing a desired service from the group consisting of local services and remote services, without specifying whether the desired service is a local service or a remote service, the service template comprising a service type and, optionally, at least one service attribute;

the service-requesting entity issuing the service template to the service registry; and

if the service registry has service objects matching the service template, the service registry returning to the service-requesting entity an array of such service objects, otherwise returning a null.

39.   The method recited in claim 38, wherein the array of such service objects returned to the service-requesting entity does not reveal whether they correspond to a local service or to a remote service.

40. The method recited in claim 38, wherein the communications node further comprises an interface to which a remote communications node can be coupled, a remote service frontend, and a remote service event notification registry, and wherein the service resides on the remote communications node, the method comprising:

5   the remote service frontend registering a notification request for a remote service backend in the remote service event notification registry.

41. The method recited in claim 40, in which the remote communications node comprises a remote service backend corresponding to the service, the method comprising:

10   obtaining parameters from the remote service backend necessary for the remote service frontend to communicate with the remote service backend.

42. The method recited in claim 41, the method comprising:
communicating the parameters to the remote service frontend.

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43. The method recited in claim 42, the method comprising:
the remote service frontend communicating with the remote service backend to provide the service to the service-requesting entity.